Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	ET Docket No. 04-352
Request for Waiver of Measurement	)	
Procedures for OFDM Ultrawideband Devices	)	

COMMENTS OF HARRIS CORPORATION

Harris Corporation ("Harris") respectfully submits these comments in response to the Federal Communications Commission's ("Commission's") Public Notice (DA 04-2793)[1] requesting comments on the Multi-Band OFDM Alliance Special Interest Group ("MBOA-SIG") waiver request submitted to the Commission on August 26, 2004 ("Waiver Request"). The Waiver Request asks that the Commission waive certain rules regarding measurement procedures and policies for MB-OFDM ultra-wideband devices.

I. Introduction and Summary

Harris is an international communications equipment company with four operating divisions that offer products and services in the microwave, broadcast, secure tactical radio, and government communications systems markets. Harris supports MBOA-SIG's Waiver Request in that the Waiver Request will ensure that MB-OFDM systems are allowed to compete on a "level playing field" with pulse-based ultra-wideband systems so that the market can decide which of these emerging technologies will best serve the public's need.

As the Waive Request notes, there are many advantages to the MB-OFDM architecture that create advantages over pulse-based ultra-wideband systems. For

[1] Public Notice, DA 04-2793, rel. Aug. 30, 2004.

example, MB-OFDM systems produce lower out-of-band emissions in critical government bands and are inherently more flexible in their ability to avoid potential sources of interference. According to the Waiver Request, the MB-OFDM systems also "improve multipath capture and provide flexibility in balancing performance against implementation complexity."[2] Because of the agility of the MB-OFDM system, it has gained widespread support among manufacturers and service providers throughout the world. Nonetheless, the marketplace deployment of MB-OFDM systems faces unintended regulatory hurdles that threaten to stifle this exciting new technology. As such, Harris strongly urges the Commission to waive the measurement procedures and polices for MB-OFDM ultra-wideband devices.

I. The Commission's Position Requires Clarification

Harris supports the wavier to allow multi-band OFDM ultra-wideband operation under Part 15 of the Commission's rules because the MBOA-SIG Waiver Request clarifies that the MB-OFDM proposal meets the Commission's requirement that ultra-wideband transmissions located within the ultra-wideband allocated spectrum must have an instantaneous transmission bandwidth of at least 500 MHz while still meeting the required PSD of -41.3 dBm/MHz under the UWB measurement rules.

The Commission's current rules did not anticipate a solution that could burst 500 MHz of instantaneous bandwidth during a given frequency dwell and therefore the rules require clarification about the permissibility of the MB-OFDM approach. Granting the Waive Request clarifies the Commission's current position and encourages competition between ultra-wideband solution providers that would ultimately benefit the ultra-wideband technology market.

[2] *See* Waiver Request at page 2.

In the Ultra-Wideband Report and Order, the Commission noted:

> Thus, as long as the transmission system complies with the fractional bandwidth or minimum bandwidth requirements at all times during its transmission, we agree that it should be permitted to operate under the UWB regulations. We recognize that this may preclude certain types of modulations, such as swept frequency (*e.g.*, FMCW), stepped frequency or frequency hopping systems. The current measurement procedures require that measurements of swept frequency devices be made with the frequency sweep stopped. The sweep is stopped because no measurement procedures have been proposed or established for swept frequency devices nor has the interference aspects of swept frequency devices been evaluated based on the different measurement results that would be obtained from measurements taken with the sweep active. Similarly, measurements on a stepped frequency or frequency hopping modulated system are performed with the stepping sequence or frequency hop stopped. With the sweep, step function or hopping stopped, it is unlikely that swept frequency (linear FM or FMCW) or stepped frequency modulated emissions would comply with the fractional bandwidth or minimum bandwidth requirements. *It also is unlikely that frequency-hopping systems would comply unless an extremely wide bandwidth-hopping channel is employed.*[3]

It is evident that the Commission did not anticipate a wide bandwidth-hopping channel that could comply with its minimum bandwidth requirements—as the test results from MBOA-SIG demonstrate. The MBOA-SIG reported to the IEEE 802.15 committee[4] that the MB-OFDM system produces no more interference than that created by already approved impulse radio ultra-wideband systems. Harris urges the Commission to permit the market place to decide which of the ultra-wideband implementation options best meet market requirements in terms of overall performance.

II. By Granting the Waiver Request, the Commission Will Serve the Public Interest and Foster a Technologically Neutral Regulatory Environment.

An equitable marketplace should be the determinant of which technology succeeds in the marketplace, *not* a preferential or unnecessarily restrictive regulatory

[3] First Report and Order, Ultra-Wideband Technologies, rel. April 22, 2002.
[4] IEEE 802.15 document 15-03-0506-00-003a-uwb-interference-comparison.pdf.

environment. A waiver of the test procedures, as requested herein, will serve the public interest by ensuring that MB-OFDM systems are not unfairly burdened in the marketplace and the public is not be denied the full benefits of this innovative new technology.

III. Conclusion

For the reasons set forth above, Harris respectfully requests that the Commission grant MBOA-SIG Waiver Request.

Respectfully submitted,

HARRIS CORPORATION

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